

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/656,053B

Source: 1FWP

Date Processed by STIC: 6/17/05

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RAW SEQUENCE LISTING

DATE: 06/17/2005

PATENT APPLICATION: US/10/656,053B

TIME: 15:04:22

Input Set : E:\ARAG003.APP.txt

Output Set: N:\CRF4\06172005\J656053B.raw

3 <110> APPLICANT: GUEVERA, JR., JUAN G.
 4 HOOGEVEEN, RON C.
 5 MOORE, PAUL J.
 7 <120> TITLE OF INVENTION: LIPOPROTEINS AS NUCLEIC ACID VECTORS
 9 <130> FILE REFERENCE: ARAG:003USD1
 11 <140> CURRENT APPLICATION NUMBER: 10/656,053B
 12 <141> CURRENT FILING DATE: 2003-09-05
 14 <150> PRIOR APPLICATION NUMBER: 09/079,030
 15 <151> PRIOR FILING DATE: 1998-05-14
 17 <150> PRIOR APPLICATION NUMBER: 08/874,807
 18 <151> PRIOR FILING DATE: 1997-06-13
 20 <160> NUMBER OF SEQ ID NOS: 229
 22 <170> SOFTWARE: PatentIn Ver. 2.1
 24 <210> SEQ ID NO: 1
 25 <211> LENGTH: 4536
 26 <212> TYPE: PRT
 27 <213> ORGANISM: Homo sapiens
 29 <400> SEQUENCE: 1
 30 Glu Glu Glu Met Leu Glu Asn Val Ser Leu Val Cys Pro Lys Asp Ala
 31 1 5 10 15
 33 Thr Arg Phe Lys His Leu Arg Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu
 34 20 25 30
 36 Ser Ser Ser Gly Val Pro Gly Thr Ala Asp Ser Arg Ser Ala Thr Arg
 37 35 40 45
 39 Ile Asn Cys Lys Val Glu Leu Glu Val Pro Gln Leu Cys Ser Phe Ile
 40 50 55 60
 42 Leu Lys Thr Ser Gln Cys Thr Leu Lys Glu Val Tyr Gly Phe Asn Pro
 43 65 70 75 80
 45 Glu Gly Lys Ala Leu Leu Lys Lys Thr Lys Asn Ser Glu Glu Phe Ala
 46 85 90 95
 48 Ala Ala Met Ser Arg Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly Lys
 49 100 105 110
 51 Gln Val Phe Leu Tyr Pro Glu Lys Asp Glu Pro Thr Tyr Ile Leu Asn
 52 115 120 125
 54 Ile Lys Arg Gly Ile Ile Ser Ala Leu Leu Val Pro Pro Glu Thr Glu
 55 130 135 140
 57 Glu Ala Lys Gln Val Leu Phe Leu Asp Thr Val Tyr Gly Asn Cys Ser
 58 145 150 155 160
 60 Thr His Phe Thr Val Lys Thr Arg Lys Gly Asn Val Ala Thr Glu Ile
 61 165 170 175
 63 Ser Thr Glu Arg Asp Leu Gly Gln Cys Asp Arg Phe Lys Pro Ile Arg
 64 180 185 190
 66 Thr Gly Ile Ser Pro Leu Ala Leu Ile Lys Gly Met Thr Arg Pro Leu

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67          195          200          205
69 Ser Thr Leu Ile Ser Ser Ser Gln Ser Cys Gln Tyr Thr Leu Asp Ala
70          210          215          220
72 Lys Arg Lys His Val Ala Glu Ala Ile Cys Lys Glu Gln His Leu Phe
73 225          230          235          240
75 Leu Pro Phe Ser Tyr Asn Asn Lys Tyr Gly Met Val Ala Gln Val Thr
76          245          250          255
78 Gln Thr Leu Lys Leu Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe Phe
79          260          265          270
81 Gly Glu Gly Thr Lys Lys Met Gly Leu Ala Phe Glu Ser Thr Lys Ser
82          275          280          285
84 Thr Ser Pro Pro Lys Gln Ala Glu Ala Val Leu Lys Thr Leu Gln Glu
85          290          295          300
87 Leu Lys Lys Leu Thr Ile Ser Glu Gln Asn Ile Gln Arg Ala Asn Leu
88 305          310          315          320
90 Phe Asn Lys Leu Val Thr Glu Leu Arg Gly Leu Ser Asp Glu Ala Val
91          325          330          335
93 Thr Ser Leu Leu Pro Gln Leu Ile Glu Val Ser Ser Pro Ile Thr Leu
94          340          345          350
96 Gln Ala Leu Val Gln Cys Gly Gln Pro Gln Cys Ser Thr His Ile Leu
97          355          360          365
99 Gln Trp Leu Lys Arg Val His Ala Asn Pro Leu Leu Ile Asp Val Val
100          370          375          380
102 Thr Tyr Leu Val Ala Leu Ile Pro Glu Pro Ser Ala Gln Gln Leu Arg
103 385          390          395          400
105 Glu Ile Phe Asn Met Ala Arg Asp Gln Arg Ser Arg Ala Thr Leu Tyr
106          405          410          415
108 Ala Leu Ser His Ala Val Asn Asn Tyr His Lys Thr Asn Pro Thr Gly
109          420          425          430
111 Thr Gln Glu Leu Leu Asp Ile Ala Asn Tyr Leu Met Glu Gln Ile Gln
112          435          440          445
114 Asp Asp Cys Thr Gly Asp Glu Asp Tyr Thr Tyr Leu Ile Leu Arg Val
115          450          455          460
117 Ile Gly Asn Met Gly Gln Thr Met Glu Gln Leu Thr Pro Glu Leu Lys
118 465          470          475          480
120 Ser Ser Ile Leu Lys Cys Val Gln Ser Thr Lys Pro Ser Leu Met Ile
121          485          490          495
123 Gln Lys Ala Ala Ile Gln Ala Leu Arg Lys Met Glu Pro Lys Asp Lys
124          500          505          510
126 Asp Gln Glu Val Leu Leu Gln Thr Phe Leu Asp Asp Ala Ser Pro Gly
127          515          520          525
129 Asp Lys Arg Leu Ala Ala Tyr Leu Met Leu Met Arg Ser Pro Ser Gln
130          530          535          540
132 Ala Asp Ile Asn Lys Ile Val Gln Ile Leu Pro Trp Glu Gln Asn Glu
133 545          550          555          560
135 Gln Val Lys Asn Phe Val Ala Ser His Ile Ala Asn Ile Leu Asn Ser
136          565          570          575
138 Glu Glu Leu Asp Ile Gln Asp Leu Lys Lys Leu Val Lys Glu Ala Leu
139          580          585          590

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141 Lys Glu Ser Gln Leu Pro Thr Val Met Asp Phe Arg Lys Phe Ser Arg
142          595          600          605
144 Asn Tyr Gln Leu Tyr Lys Ser Val Ser Leu Pro Ser Leu Asp Pro Ala
145          610          615          620
147 Ser Ala Lys Ile Glu Gly Asn Leu Ile Phe Asp Pro Asn Asn Tyr Leu
148 625          630          635          640
150 Pro Lys Glu Ser Met Leu Lys Thr Thr Leu Thr Ala Phe Gly Phe Ala
151          645          650          655
153 Ser Ala Asp Leu Ile Glu Ile Gly Leu Glu Gly Lys Gly Phe Glu Pro
154          660          665          670
156 Thr Leu Glu Ala Leu Phe Gly Lys Gln Gly Phe Phe Pro Asp Ser Val
157          675          680          685
159 Asn Lys Ala Leu Tyr Trp Val Asn Gly Gln Val Pro Asp Gly Val Ser
160          690          695          700
162 Lys Val Leu Val Asp His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu
163 705          710          715          720
165 Gln Asp Met Val Asn Gly Ile Met Leu Ser Val Glu Lys Leu Ile Lys
166          725          730          735
168 Asp Leu Lys Ser Lys Glu Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile
169          740          745          750
171 Leu Gly Glu Glu Leu Gly Phe Ala Ser Leu His Asp Leu Gln Leu Leu
172          755          760          765
174 Gly Lys Leu Leu Leu Met Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln
175          770          775          780
177 Met Ile Gly Glu Val Ile Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu
178 785          790          795          800
180 His Tyr Ile Phe Met Glu Asn Ala Phe Glu Leu Pro Thr Gly Ala Gly
181          805          810          815
183 Leu Gln Leu Gln Ile Ser Ser Ser Gly Val Ile Ala Pro Gly Ala Lys
184          820          825          830
186 Ala Gly Val Lys Leu Glu Val Ala Asn Met Gln Ala Glu Leu Val Ala
187          835          840          845
189 Lys Pro Ser Val Ser Val Glu Phe Val Thr Asn Met Gly Ile Ile Ile
190          850          855          860
192 Pro Asp Phe Ala Arg Ser Gly Val Gln Met Asn Thr Asn Phe Phe His
193 865          870          875          880
195 Glu Ser Gly Leu Glu Ala His Val Ala Leu Lys Ala Gly Lys Leu Lys
196          885          890          895
198 Phe Ile Ile Pro Ser Pro Lys Arg Pro Val Lys Leu Leu Ser Gly Gly
199          900          905          910
201 Asn Thr Leu His Leu Val Ser Thr Thr Lys Thr Glu Val Ile Pro Pro
202          915          920          925
204 Leu Ile Glu Asn Arg Gln Ser Trp Ser Val Cys Lys Gln Val Phe Pro
205          930          935          940
207 Gly Leu Asn Tyr Cys Thr Ser Gly Ala Tyr Ser Asn Ala Ser Ser Thr
208 945          950          955          960
210 Asp Ser Ala Ser Tyr Tyr Pro Leu Thr Gly Asp Thr Arg Leu Glu Leu
211          965          970          975
213 Glu Leu Arg Pro Thr Gly Glu Ile Glu Gln Tyr Ser Val Ser Ala Thr

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214          980          985          990
216 Tyr Glu Leu Gln Arg Glu Asp Arg Ala Leu Val Asp Thr Leu Lys Phe
217          995          1000          1005
219 Val Thr Gln Ala Glu Gly Ala Lys Gln Thr Glu Ala Thr Met Thr Phe
220          1010          1015          1020
222 Lys Tyr Asn Arg Gln Ser Met Thr Leu Ser Ser Glu Val Gln Ile Pro
223 1025          1030          1035          1040
225 Asp Phe Asp Val Asp Leu Gly Thr Ile Leu Arg Val Asn Asp Glu Ser
226          1045          1050          1055
228 Thr Glu Gly Lys Thr Ser Tyr Arg Leu Thr Leu Asp Ile Gln Asn Lys
229          1060          1065          1070
231 Lys Ile Thr Glu Val Ala Leu Met Gly His Leu Ser Cys Asp Thr Lys
232          1075          1080          1085
234 Glu Glu Arg Lys Ile Lys Gly Val Ile Ser Ile Pro Arg Leu Gln Ala
235          1090          1095          1100
237 Glu Ala Arg Ser Glu Ile Leu Ala His Trp Ser Pro Ala Lys Leu Leu
238 1105          1110          1115          1120
240 Leu Gln Met Asp Ser Ser Ala Thr Ala Tyr Gly Ser Thr Val Ser Lys
241          1125          1130          1135
243 Arg Val Ala Trp His Tyr Asp Glu Glu Lys Ile Glu Phe Glu Trp Asn
244          1140          1145          1150
246 Thr Gly Thr Asn Val Asp Thr Lys Lys Met Thr Ser Asn Phe Pro Val
247          1155          1160          1165
249 Asp Leu Ser Asp Tyr Pro Lys Ser Leu His Met Tyr Ala Asn Arg Leu
250          1170          1175          1180
252 Leu Asp His Arg Val Pro Glu Thr Asp Met Thr Phe Arg His Val Gly
253 1185          1190          1195          1200
255 Ser Lys Leu Ile Val Ala Met Ser Ser Trp Leu Gln Lys Ala Ser Gly
256          1205          1210          1215
258 Ser Leu Pro Tyr Thr Gln Thr Leu Gln Asp His Leu Asn Ser Leu Lys
259          1220          1225          1230
261 Glu Phe Asn Leu Gln Asn Met Gly Leu Pro Asp Phe His Ile Pro Glu
262          1235          1240          1245
264 Asn Leu Phe Leu Lys Ser Asp Gly Arg Val Lys Tyr Thr Leu Asn Lys
265          1250          1255          1260
267 Asn Ser Leu Lys Ile Glu Ile Pro Leu Pro Phe Gly Gly Lys Ser Ser
268 1265          1270          1275          1280
270 Arg Asp Leu Lys Met Leu Glu Thr Val Arg Thr Pro Ala Leu His Phe
271          1285          1290          1295
273 Lys Ser Val Gly Phe His Leu Pro Ser Arg Glu Phe Gln Val Pro Thr
274          1300          1305          1310
276 Phe Thr Ile Pro Lys Leu Tyr Gln Leu Gln Val Pro Leu Leu Gly Val
277          1315          1320          1325
279 Leu Asp Leu Ser Thr Asn Val Tyr Ser Asn Leu Tyr Asn Trp Ser Ala
280          1330          1335          1340
282 Ser Tyr Ser Gly Gly Asn Thr Ser Thr Asp His Phe Ser Leu Arg Ala
283 1345          1350          1355          1360
285 Arg Tyr His Met Lys Ala Asp Ser Val Val Asp Leu Leu Ser Tyr Asn
286          1365          1370          1375

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288 Val Gln Gly Ser Gly Glu Thr Thr Tyr Asp His Lys Asn Thr Phe Thr
289          1380          1385          1390
291 Leu Ser Cys Asp Gly Ser Leu Arg His Lys Phe Leu Asp Ser Asn Ile
292          1395          1400          1405
294 Lys Phe Ser His Val Glu Lys Leu Gly Asn Asn Pro Val Ser Lys Gly
295          1410          1415          1420
297 Leu Leu Ile Phe Asp Ala Ser Ser Ser Trp Gly Pro Gln Met Ser Ala
298 1425          1430          1435          1440
300 Ser Val His Leu Asp Ser Lys Lys Lys Gln His Leu Phe Val Lys Glu
301          1445          1450          1455
303 Val Lys Ile Asp Gly Gln Phe Arg Val Ser Ser Phe Tyr Ala Lys Gly
304          1460          1465          1470
306 Thr Tyr Gly Leu Ser Cys Gln Arg Asp Pro Asn Thr Gly Arg Leu Asn
307          1475          1480          1485
309 Gly Glu Ser Asn Leu Arg Phe Asn Ser Ser Tyr Leu Gln Gly Thr Asn
310          1490          1495          1500
312 Gln Ile Thr Gly Arg Tyr Glu Asp Gly Thr Leu Ser Leu Thr Ser Thr
313 1505          1510          1515          1520
315 Ser Asp Leu Gln Ser Gly Ile Ile Lys Asn Thr Ala Ser Leu Lys Tyr
316          1525          1530          1535
318 Glu Asn Tyr Glu Leu Thr Leu Lys Ser Asp Thr Asn Gly Lys Tyr Lys
319          1540          1545          1550
321 Asn Phe Ala Thr Ser Asn Lys Met Asp Met Thr Phe Ser Lys Gln Asn
322          1555          1560          1565
324 Ala Leu Leu Arg Ser Glu Tyr Gln Ala Asp Tyr Glu Ser Leu Arg Phe
325          1570          1575          1580
327 Phe Ser Leu Leu Ser Gly Ser Leu Asn Ser His Gly Leu Glu Leu Asn
328 1585          1590          1595          1600
330 Ala Asp Ile Leu Gly Thr Asp Lys Ile Asn Ser Gly Ala His Lys Ala
331          1605          1610          1615
333 Thr Leu Arg Ile Gly Gln Asp Gly Ile Ser Thr Ser Ala Thr Thr Asn
334          1620          1625          1630
336 Leu Lys Cys Ser Leu Leu Val Leu Glu Asn Glu Leu Asn Ala Glu Leu
337          1635          1640          1645
339 Gly Leu Ser Gly Ala Ser Met Lys Leu Thr Thr Asn Gly Arg Phe Arg
340          1650          1655          1660
342 Glu His Asn Ala Lys Phe Ser Leu Asp Gly Lys Ala Ala Leu Thr Glu
343 1665          1670          1675          1680
345 Leu Ser Leu Gly Ser Ala Tyr Gln Ala Met Ile Leu Gly Val Asp Ser
346          1685          1690          1695
348 Lys Asn Ile Phe Asn Phe Lys Val Ser Gln Glu Gly Leu Lys Leu Ser
349          1700          1705          1710
351 Asn Asp Met Met Gly Ser Tyr Ala Glu Met Lys Phe Asp His Thr Asn
352          1715          1720          1725
354 Ser Leu Asn Ile Ala Gly Leu Ser Leu Asp Phe Ser Ser Lys Leu Asp
355          1730          1735          1740
357 Asn Ile Tyr Ser Ser Asp Lys Phe Tyr Lys Gln Thr Val Asn Leu Gln
358 1745          1750          1755          1760
360 Leu Gln Pro Tyr Ser Leu Val Thr Thr Leu Asn Ser Asp Leu Lys Tyr

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/17/2005
PATENT APPLICATION: US/10/656,053B TIME: 15:04:23

Input Set : E:\ARAG003.APP.txt
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 2

Seq#:75; Xaa Pos. 2,3,4,5

VERIFICATION SUMMARY

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Input Set : E:\ARAG003.APP.txt

Output Set: N:\CRF4\06172005\J656053B.raw

L:894 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0

L:2361 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0